

CLAIMS

1. An assembly for connecting a coaxial cable with a conductive sheath
2 and a surrounding insulating jacket to a threaded male connecting port, the
connecting assembly comprising:
4 a tubular fitting having a central axis and axially spaced first and second
ends,
6 the tubular fitting comprising a rotatable nut assembly at the first end to
threadably engage a threaded male connecting port,
8 the tubular fitting further comprising a cylindrical connecting body for
engaging a conductive sheath on a coaxial cable,
10 the tubular fitting further comprising a sleeve assembly around the
connecting body,
12 the sleeve assembly and connecting body cooperatively defining a cable-
engaging assembly and configured so that an insulating jacket on a coaxial cable
14 operatively connected to the connecting assembly is captively located between the
sleeve assembly and connecting body,
16 the rotatable nut assembly having a first shoulder and the cable-engaging
assembly having a second shoulder,

18 the first and second shoulders selectively engageable to allow at least a
part of the rotatable nut assembly to be pivoted around the central axis to bear the
20 first shoulder against the second shoulder and thereby urge at least a part of the
cable-engaging assembly in movement around the central axis.

2 2. The assembly for connecting a coaxial cable to a threaded male
connecting port according to claim 1 wherein the first and second shoulders face
in circumferentially opposite directions relative to the central axis.

2 3. The assembly for connecting a coaxial cable to a threaded male
connecting port according to claim 1 wherein the sleeve assembly is joined to the
connecting body to define the cable-engaging assembly and the second shoulder
4 is on the sleeve assembly.

2 4. The assembly for connecting a coaxial cable to a threaded male
connecting port according to claim 3 wherein one of the sleeve assembly and
connecting body has a projection defining one of the first and second shoulders
4 and the other of the sleeve assembly and connecting body has a receptacle for the
projection and defines the other of the first and second shoulders.

5. The assembly for connecting a coaxial cable to a threaded male
2 connecting port according to claim 1 wherein the nut assembly has a rotatable part
with threads to engage threads on a threaded male connecting port and first and
4 second states, with the nut assembly in the first state the rotatable part can be
pivoted through 360° around the central axis without causing the first and second
6 shoulders to engage, and with the nut assembly in the second state pivoting of the
rotatable part causes the first shoulder to engage the second shoulder.

6. The assembly for connecting a coaxial cable to a threaded male
2 connecting port according to claim 6 wherein the nut assembly is changeable from
the first state into the second state by moving the rotatable part of the nut
4 assembly axially relative to the cable-engaging assembly.

7. The assembly for connecting a coaxial cable to a threaded male
2 connecting port according to claim 6 wherein the entire nut assembly is movable
as one piece around the central axis of the tubular fitting.

8. The assembly for connecting a coaxial cable to a threaded male
2 connecting port according to claim 1 wherein there is a third shoulder on the nut
assembly and a fourth shoulder on the cable-engaging assembly, the third

4 shoulder engaging the fourth shoulders simultaneously as the first shoulder
engages the second shoulder, the third and fourth shoulders selectively
6 engageable to allow the at least part of the rotatable nut assembly to be pivoted
around the central axis to bear the third shoulder against the fourth shoulder and
8 thereby urge the at least part of the cable-engaging assembly in movement around
the central axis.

9. The assembly for connecting a coaxial cable to a threaded male
2 connecting port according to claim 6 wherein the rotatable part of the nut assembly
is slidable guidingly along the cable-engaging assembly.

10. The assembly for connecting a coaxial cable to a threaded male
2 connecting port according to claim 9 wherein the rotatable part of the nut assembly
is slidable guidingly along the cylindrical connecting body.

11. The assembly for connecting a coaxial cable to a threaded male
2 connecting port according to claim 10 wherein the cylindrical connecting body has
a first stop surface facing axially in a first direction, the sleeve assembly defines
4 a second stop surface facing axially oppositely to the first direction, the rotatable
part of the nut assembly has a portion that resides between the first and second

6 stop surfaces, the portion of the rotatable part of the nut assembly movable a
predetermined axial distance between a) a first position wherein the portion of the
8 rotatable part of the nut assembly abuts to the first stop surface and b) a second
position wherein the portion of the rotatable part of the nut assembly abuts to the
10 second stop surface, the nut assembly in the first state with the portion of the
rotatable part of the nut assembly in the first position and in the second state with
12 the portion of the rotatable part of the nut assembly in the second position.

12. The assembly for connecting a coaxial cable to a threaded male
2 connecting port according to claim 1 wherein the tubular fitting has a length
between the first and second ends, the nut assembly has a rotatable part with
4 threads to engage threads on a threaded male connecting port, the rotatable part
of the nut assembly having a radially outwardly facing surface that is engageable
6 by a user to facilitate pivoting movement of the rotatable part around the central
axis, and the radially outwardly facing surface has a length that extends to at least
8 one half the length of the tubular fitting.

13. The assembly for connecting a coaxial cable to a threaded male
2 connecting port according to claim 12 wherein the radially outwardly facing surface
extends to at least three fourths of the length of the tubular fitting.

14. The assembly for connecting a coaxial cable to a threaded male
2 connecting port according to claim 12 wherein the radially outwardly facing surface
has a diameter and a portion of the radially outwardly facing surface increases
4 progressively in diameter along the central axis.

15. The assembly for connecting a coaxial cable to a threaded male
2 connecting port according to claim 12 wherein the radially outwardly facing surface
has a contoured shape to facilitate grasping between two fingers of a user.

16. The assembly for connecting a coaxial cable to a threaded male
2 connecting port according to claim 12 wherein the radially outwardly facing surface
has a substantially cylindrical shape with circumferentially spaced grooves formed
4 therethrough.

17. The assembly for connecting a coaxial cable to a threaded male
2 connecting port according to claim 12 wherein the radially outwardly facing surface
has a polygonally-shaped portion which is engageable with a turning tool, the
4 polygonally-shaped portion extends over less than one half the length of the
radially outwardly facing surface.

18. The assembly for connecting a coaxial cable to a threaded male
connecting port according to claim 12 wherein the threads on the rotatable part are
dimensioned to accommodate a male connecting port having a first diameter and
the radially outwardly facing surface extends to a second diameter that is at least
1.2 times the first diameter.

19. The assembly for connecting a coaxial cable to a threaded male
connecting port according to claim 18 wherein the second diameter is at least 1.4
times the first diameter.

20. The assembly for connecting a coaxial cable to a threaded male
connecting port according to claim 18 wherein the second diameter is at least 1.5
times the first diameter.

21. An assembly for connecting a coaxial cable with a conductive sheath
and a surrounding insulating jacket to a threaded male connecting port, the
connecting assembly comprising:

a tubular fitting having a central axis and axially spaced first and second
ends,

6 nut means at the first end of the tubular fitting and having a rotatable part
to threadably engage a threaded male connecting port,

8 the nut means having a first state and a second state,
first means on the tubular fitting to receive a coaxial cable at the second
10 end of the tubular fitting and to electrically and mechanically connect to a coaxial
cable directed into the second end of the tubular fitting,

12 the nut means and first means cooperating to a) allow the nut means to
pivot through 360° around the central axis without thereby causing any part of the
14 first means to pivot around the central axis with the nut means in the first state and
b) cause a part of the first means to follow pivoting movement of the rotatable part
16 of the nut means around the central axis with the nut means in the second state.

22. A method of connecting a coaxial cable with a conductive sheath, a
2 surrounding insulating jacket, and a core element to a threaded male connecting
port, the method comprising the steps of:

4 providing a connecting assembly comprising a tubular fitting having a
central axis and axially spaced first and second ends, the tubular fitting comprising
6 a rotatable nut assembly with a rotatable part at the first end of the tubular fitting,
a cylindrical connecting body, and a sleeve assembly, with the sleeve assembly
8 and connecting body cooperatively define a cable-engaging assembly;

directing the coaxial cable into the second end of the tubular fitting so that
10 the tubular fitting and coaxial cable are in a first relative axial relationship wherein
a part of the tubular fitting resides between the insulating jacket and the core of the
12 coaxial cable; and

with the coaxial cable and tubular fitting in the first relative axial relationship,
14 moving the coaxial cable and tubular fitting towards each other while turning the
part of the tubular fitting around the central axis of the tubular fitting;

16 placing the coaxial cable and tubular fitting in an operative relative axial
relationship;

18 electrically connecting the connecting body to the conductive sheath; and
threadably engaging the rotatable part of the rotatable nut assembly with
20 the threaded male connecting port.

23. The method of connecting a coaxial cable to a threaded male
2 connecting port according to claim 22 wherein the step of turning the part of the
tubular fitting comprises turning the rotatable part of the nut assembly and thereby
4 causing the rotatable part of the nut assembly to turn the part of the tubular fitting.

24. The method of connecting a coaxial cable to a threaded male
2 connecting port according to claim 23 wherein the step of turning the part of the
tubular fitting comprises turning the connecting body.

25. The method of connecting a coaxial cable to a threaded male
2 connecting port according to claim 23 wherein the step of threadably engaging the
rotatable part of the rotatable nut assembly comprises turning the rotatable part
4 of the nut assembly with the nut assembly in a first state and further comprising
the step of placing the nut assembly in a second state before turning the part of
6 the tubular fitting.

26. The method of connecting a coaxial cable to a threaded male
2 connecting port according to claim 22 wherein the rotatable part of the nut
assembly has a radially outwardly facing surface and the step of turning the part
4 of the tubular fitting comprises gripping the radially outwardly facing surface
between a user's fingers and turning the part of the tubular fitting through the
6 radially outwardly facing surface.

27. The method of connecting a coaxial cable to a threaded male
2 connecting port according to claim 22 wherein the rotatable part of the nut

- 4 assembly has a polygonally-shaped outer surface and the step of turning the part of the tubular fitting comprises engaging the polygonally-shaped surface with a tool and manipulating the tool.